Q. ARE THE RATES, TERMS AND CONDITIONS FOR CLEC RESIDENTIAL SERVICES COMPARABLE TO VERIZON'S?

A. Yes, as illustrated in Exhibit VA-23. Table 4 below shows that some of Verizon's main competitors provide residential bundled plans that are competitive with those of Verizon:

Table 4

Virginia Residential Bundled Plans

		Monthly	Minutes	Services	Features
Provider	**Plan**	**Price**	**Included**	**Included**	**Included**
(a)	**(b)**	**(d)**	**(e)**	**(f)**	**(g)**
Verizon	Verizon Freedom	$54.99	Unlimited	Local & Long Distance to U.S., P.R., & Canada	5: including voice mail, call ID, speed dial
Cavalier	Unlimited Long Distance	$34.95	Unlimited	Local & Long Distance to U.S., Canada & U.S. Territories	12: including voice mail, call ID, bill checking
Comcast	Digital Voice	$39.95	Unlimited	Local & Long Distance to U.S.	14: including voice mail, call ID
Cox	Nationwide Connections	$39.95	Unlimited	Local & Long Distance to U.S., Canada & U.S. Territories	8: including voice mail, call ID, call waiting
NTELOS	Unlimited Local	$59.95	100 LD minutes	Local & Long Distance to U.S.	4: including voice mail, call ID, call block

Sources: (accessed December 14, 2006)

https://www22.verizon.com/ForYourHome/sas/sas_FreedomGrid.aspx
http://www.cavtel.com/homeservice/unlim_%20residential.shtml
http://www.comcastphoneoffers.com/1/?cid=56009&affid=comcast_difital_voice&
http://www.cox.com/hr/telephone/packages.asp
http://www.ntelos.com/landline/residential/localtelephone.html

Q. HAS CLEC RESIDENTIAL COMPETITION BEEN LIMITED TO VIRGINIA'S METROPOLITAN AREAS?

A. Not at all. While the most aggressive competitive activity can be seen in the Richmond and Virginia Beach MSAs, CLECs currently offer local exchange and a full range of other telecommunications services to residential customers in the more rural areas such as **[BEGIN CONFIDENTIAL]** [redacted] **¡END**

CONFIDENTIAL] in far Southwest Virginia. Residential customers in every MSA and non-MSA region have competitive choices from CLECs for all of Verizon's services.

Q. IS THERE OTHER EVIDENCE OF COMPETITION FOR RESIDENTIAL SERVICES IN THE MORE RURAL AREAS OF THE STATE?

A. Yes. As outlined in Mr. Newman's testimony, Verizon conducted a survey of residential customers in the non-MSA regions which comprise the more rural areas of the Commonwealth. The consumer survey shows that 6.9 percent of rural residential customers obtain their primary local telephone service from a provider other than Verizon. Also, 45.5 percent of Verizon rural residential customers have been approached by or are aware of companies other than Verizon that are able to offer local service at their location.

f. Other Technologies

Q. WHAT OTHER TYPES OF TECHNOLOGIES ARE BEING USED TO PROVIDE BROADBAND SERVICES TO VIRGINIA CONSUMERS

A. Newer technologies currently being used to provide broadband services to Virginia residential and business customers include Wide-Area Wireless Broadband technologies (e.g., Wi-Max), traditional Wi-Fi, and Broadband Over Powerline (or "BPL").[154]

(i) Wide-Area Wireless Broadband

[154] *See In the Matters of Appropriate Framework for Broadband Access to the Internet over Wireline Facilities*, Report and Order and Notice of Proposed Rulemaking, (FCC, September 23, 2005) at ¶40 ["T]he technology used to build networks, and the purposes for which they are built, are fundamentally changing, and will likely continue to do so for the foreseeable future. A wide variety of IP-based services can be provided regardless of the nature of the broadband platform used to connect the consumer and the ISP. Network platforms therefore will be multi-purpose in nature and more application-based, rather than existing for a single, unitary, technologically specific purpose."].

Q. WHAT IS WIDE-AREA WIRELESS BROADBAND?

A. Wide-Area Wireless Broadband includes wireless network technologies that allow users to access broadband connections. There are several technologies currently being used in Virginia, including solutions from Flarion,[155] Motorola,[156] and Navini,[157] which are employed by various competitors. Full Wi-MAX, which is just now coming online, will be a cut above the current services, allowing broadband Internet access at speeds up to 155 megabits per second ("Mbps") and a range of up to 30 miles. For non line-of-sight service, speeds up to 75 Mbps can be achieved within a radius of three miles or more.[158]

Q. WHAT IS THE ROLE OF WIDE-AREA WIRELESS BROADBAND IN INTERMODAL COMPETITION?

A. Wide-area wireless broadband networks have a much farther range than the familiar 802.11x "wi-fi" technologies commonly deployed in airports, coffee houses and municipalities. Sometimes the two technologies are used in concert,

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[155] Citizens Telephone Cooperative utilizes Flarion "OFDM" technology in Virginia in the BCR MSA. See Citizens Cooperative, Press Release, Citizens Offers First "Truly Mobile" Wireless Internet in Christiansburg and other parts of New River Valley (Mar. 26, 2006), available at http://citizens.coop/aboutus/newsreleases/TrulyMobileWireless.pdf. Flarion Technologies was recently purchased by QualComm. See Qualcomm, Flash-OFDM, http://www.qualcomm.com/technology/flash-ofdm/index.html.

[156] BX-2 is an example of a fixed wireless provider that uses Motorola's Canopy technology.

[157] NTELOS utilizes Navini technology for portable broadband services. Speeds are 1 to 1.5 Mbps with advertised range of up to 12 miles per tower. *See* NTELOS, Portable Broadband, http://www.ntelos.com/landline/residential/portablebroadband.html. Navini offers pre-Mobile Wi-Max solutions, with non-line of sight portable broadband with ranges up to 12 miles per tower. *See* Navini, Navini pre-Mobile Wi-Max solutions, http://www.navini.com/Products/index.htm.

[158] May 2006 GAO, Telecommunications, Report at 60.

with Wide-Area Wireless networks used to provide backhaul for shorter range Wi-Fi hotspots, creating coverage throughout any area.[159]

Wide-Area Wireless networks provide point-to-multipoint broadband connectivity. The technology is not limited to fixed wireless competitors: cable and other providers also take advantage of Wide-Area Networks to provide wireless broadband as an extension to their wireline network infrastructures.

Q. WHERE ARE WIDE-AREA WIRELESS BROADBAND NETWORKS USED IN VIRGINIA?

A. As Dr. Eisenach explains further in his testimony, numerous providers in Virginia use wide area wireless technology to provide broadband services, including Citizens Telephone Cooperative, NTELOS, and Virginia Broadband.

In Blacksburg, for example, Citizens offers wireless broadband through an OFDM network utilizing technology from Flarion, a subsidiary of Qualcomm.[160] The network provides both mobile and fixed service, and is available throughout most of Montgomery and Pulaski counties and a portion of Giles County.[161] The OFDM technology allows for average downlink speeds of 1 to 1.5 Mbps.

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[159] For example, according to the Yankee Group, building off a hotspot backhaul strategy, technologies like Wi-MAX will coexist with Wi-Fi and enable carriers to provide extended coverage in cities more economically and provide broader hot zone access to users. *Demystifying Next-Generation Broadband Wireless and the Role of Wi-Max*, September 2004 at 14.

[160] *See* http://citizens.coop/internet/Desktop_Router_Reference_Manual.pdf; http://citizens.coop/internet/Mobile_Modem_Card_User_Guide.pdf; OFDM technology is an alternative to Wi-Max. It was developed by Flarion Technology, now a subsidiary of Qualcomm. *See* http://seattletimes.nwsource.com/html/businesstechnology/2003298579_wimax11.html (accessed November 30, 2006).

[161] *See* http://shop.citizens.coop/index.php?pr=coverage (accessed November 30, 2006).

Similarly, NTELOS utilizes Navini technology to offer portable broadband solutions in the Lynchburg, Harrisonburg, and Charlottesville MSAs.[162] NTELOS' service offers download speeds of 1.5 Mbps and uploads of 550 kilobits per second ("Kbps"). Each tower has an advertised range of 12 miles, offering fairly ubiquitous coverage in any area, with "plug-and-play" access.[163] Virginia Broadband offers fixed wireless solutions using Alvarian technology to the North and Northern Neck regions of Virginia.[164] Speeds range from 400 Kbps to 1.2 Mbps, depending on pricing. Further, VABB offers a bundled VoIP service, which gives customers the choice of purchasing directly from VABB rather than utilizing a bypass provider such as Vonage.[165]

Q. IS Wi-MAX TECHNOLOGY LIKELY TO BE DEPLOYED BY MAJOR COMPETITORS?

A. Yes. In August 2006, for instance, Sprint announced that by 2008 it will have constructed a nationwide Wi-MAX network to provide 2-4 Mbps service to an estimated 100 million customers, with an investment of $3 billion.[166] As the *Wall Street Journal* editorialized at the time, "[t]hose who want to regulate broadband providers are saying that the phone and cable networks are too valuable and too

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[162] *See* NTELOS, http://www.ntelos.com/landline/!_d_busint3b.html.

[163] *See* NTELOS, Portable Broadband, http://www.ntelos.com/landline/residential/portablebroadband.html.; Broadband Wireless Exchange Magazine, NTELOS to Deploy Navini Networks' Wireless Broadband Solutions in Virginia, *available at* http://www.bbwexchange.com/publications/newswires/page546-718030.asp.

[164] *See* Presentation of Warren Manuel, President and CEO, Virginia Broadband, JCOTS Meeting, Richmond, Virginia, October 31, 2006.

[165] *See* Virginia Broadband, http://www.vabb.com/about.htm.

[166] A. Sharma, et al., Sprint To Spend Up to $3 Billion To Build Network Using Wi-Max – New Wireless-System Plan Shows Belief in Demand for Mobile Internet Services, Wall St. J. at B2 (Aug. 9, 2006); A. Mohammed, Sprint Nextel To Build $2.5 Billion Wireless Network, Wash. Post at D04 (Aug. 9, 2006); J. Markoff, et al., Sprint Will Build an Intel Backed Network, N.Y. Times at 7 (Aug. 8, 2006).

hard to replicate for anyone to break up the duopoly. We guess Sprint did not get the memo."[167]

(ii) Wi-Fi

Q. WHAT IS WI-FI?

A. Wi-Fi, short for wireless fidelity, is a wireless broadband network technology based on the 802.11x set of standards. It allows users within range of the network to connect to the Internet via a wireless device such as a laptop. A single wireless network, dubbed a Wi-Fi hot spot, has a range of up to 1,000 feet in an optimal open environment, and provides access speeds of up to 54Mbps.

Q. WHAT IS THE CURRENT STATUS OF WI-FI DEPLOYMENTS?

A. Initial deployment of commercial Wi-Fi service in the U.S. involved the placement of tens of thousands of hot spots in public gathering points such as airports, coffee shops, and parks.[168] T-Mobile, for example, offers more than 8,000 Wi-Fi hotspots spanning all 50 states.[169] Recently, cities throughout the country have begun deploying Wi-Fi networks to provide high-speed Internet access (typically up to 1 Mbps) and other services to businesses and residents.[170] Wi-Fi has a significant cost advantage over those wireless services

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[167] *Wi-Fi to the Max*, Wall St. J. at A10 (Aug. 9, 2006).

[168] *See* JiWire, *Wi-Fi Hotspot Directory*, http://www.jiwire.com/search-hotspot-locations.htm (42,843 hotspots in the U.S. as of November 27, 2006).

[169] T-Mobile, *T-Mobile HotSpot: US Locations*, https://selfcare.hotspot.t-mobile.com/locations/viewLocationMap.do (accessed November 30, 2006).

[170] According to one industry source, as of September 2006 there were approximately 68 municipal WiFi networks in the U.S. that were providing public access, plus 35 additional networks that were being used solely for municipal purposes such as public safety. *See* MuniWireless.com, *List of US Cities and Regions* at 6 (Sept. 10, 2006), http://www.muniwireless.com/reports/docs/Sept-10-2006summary.pdf.

that require large payments for spectrum rights, because it uses unlicensed radio spectrum.[171] Wi-Fi can be deployed at very low fixed costs. As Google's Wi-Fi Product Manager has explained, "[i]nstead of trenching fiber, wireless broadband requires a bucket truck, a lamppost, and 5 minutes of installation."[172]

Q. WHAT ROLE DOES WI-FI PLAY IN INTERMODAL COMPETITION?

A. As mentioned above, Wi-Fi technology is emerging as another potent form of intermodal competition. One integrated network application of Wi-Fi technology is wireless VoIP or VoIP over Wi-Fi, which is the routing of telephone calls for mobile users over the Internet.[173] Vonage recently launched a VoWiFi phone on which users can make calls on their Vonage account from any Wi-Fi hotspot.

Q. HOW EXTENSIVELY ARE WI-FI SERVICES DEPLOYED AND USED?

A. Wayport, a leading Wi-Fi network provider, owns 6,300 Wi-Fi hot spots nationwide, and claims to add as many as 150 new hot spots per week.[174] Other major Wi-Fi network providers include T-Mobile, SBC, Boingo Wireless and Sprint. In-Stat/MDR estimates that there are 4.9 million hot spot users in North America in 2005, and that number is expected to grow almost fivefold to 23.9 million by 2007.[175] Home Wi-Fi networks were in use by 8.7 million households

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[171] Wi-Fi systems typically use unlicensed spectrum in the 2.4 and 5 GHz bands. *See* 47 C.F.R. § 15.1(a); K. Werbach, New America Foundation & Public Knowledge, *Radio Revolution: The Coming Age of Unlicensed Wireless* at Table 1 (Dec. 15, 2003).

[172] *See* Minnie Ingersoll, Google WiFi Product Manager, *Wi-Fi in Mountain View*, Google Blog (Nov. 17, 2005), http://googleblog.blogspot.com/2005/11/wi-fi-in-mountain-view.html.

[173] *See* In-Stat, Demand for Wireless VoIP Applications and Services in the Business Environment, In-Stat. January 2005, p. 6 ("In-Stat Wireless VoIP").

[174] Wayport Press Release. *Wayport Becomes the Nation's Largest Wi-Fi Hot Spot Provider*, January 4, 2005, accessed March 21, 2005 at http://www.wayport.net/press/179 .

[175] Cravens, Amy, *Hotspots: Who's Using Them, When, Where and How Often?* In-Stat\MDR,

in 2004, and the number of these networks was expected climb to 28 million by 2008, according to a Jupiter Research/Ipsos-Insight Entertainment Technologies survey.[176]

Q. DO YOU EXPECT THAT WI-FI WILL INCREASE THE DISPLACEMENT OF WIRELINE SERVICE?

A. Yes. Wireless phone suppliers have begun to integrate wireless VoIP technology into their handsets. Dual mode devices allow wireless mobile users to access both their wireless networks and Wi-Fi networks.[177] Users of these dual mode devices will be able to conserve their mobile minutes by using a Wi-Fi connection to place VoIP calls. By enabling connection to both VoIP and wireless networks, these dual mode phones will provide enhanced coverage, thus allowing the user to stay connected in more locations. Also, since many households now have home Wi-Fi networks, these dual mode telephones will allow them to use their cell phones at home without charging minutes of use against their cell phone plans.

(iii) BPL

December, 2003, at Table 23.

[176] Ask, Julie and Sebastian, Ina, *Profile of the Home Wi-Fi User*, JupiterResearch, September 27, 2004.

[177] Examples of dual phones include the HP iPAQ h6315 with T-Mobile service, T-Mobile's MDA III and MDA IV (available in coming summer), O2 XDA IIs, Vodafone VPA III, and Orange SPV M2000.

Q. WHAT IS BROADBAND OVER POWERLINE?

A. BPL is a technology that has been developed to allow transmission of broadband signals over existing power line facilities. The technology has the potential of being "a ubiquitous third pipe to the home."[178]

Q. WHAT IS THE SIGNIFICANCE OF BPL?

A. Because it uses the existing utility infrastructure, BPL provides electric utilities a low cost means of entry into the telecommunications market and allows them to take advantage of economies of scope. Recently retired FCC Commissioner Abernathy explained the significance of BPL this way:

> Access BPL may play an important role as a new competitor in offering broadband access to homes and businesses because power lines are available in almost every community. This means that the traditional providers of broadband communications, DSL and cable modem services, will face a new competitor. In addition, Access BPL may serve as a broadband solution in geographic areas where DSL and cable modem services are not yet offered.[179]

The deployment of BPL facilitates competition for voice services, in addition to broadband in two ways. First, the broadband line allows the customer to purchase service from any of the numerous independent VoIP providers or a VoIP offering from the BPL service provider. Second, the BPL service provider may offer VoIP even if the customer does not purchase broadband service.[180]

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[178] *Inquiry Regarding Carrier Current Systems, including Broadband over Power Line Systems*, Notice of Inquiry, 18 FCC Rcd 8498, Separate Statement of Chairman Michael K. Powell (2003); *see also Broadband*, National Journal's Technology Daily (Dec. 16, 2003).

[179] FCC Commissioner Kathleen Q. Abernathy, *Broadband Over Power Line*, Focus on Consumer Concerns May-June 2004. http://ftp.fcc.gov/commissioners/abernathy/news/bpl.html (accessed 3-29-05).

[180] For example, Current Communications offers phone services to its residential broadband subscribers for $29.95 per month, but also allows residential customers to purchase phone service only for

BPL networks currently provide 3 Mbps of bandwidth.[181] Next-generation equipment will increase BPL's speed to as high as 100 Mbps.[182]

Q. WHAT IS THE REGULATORY STATUS OF BPL?

A. In early November 2006, the FCC declared broadband access provided over BPL infrastructures to be an "information service," thereby according it the same largely deregulatory treatment that has long been granted cable modem service and more recently applied to fiber and DSL.[183]

Q IS BPL WIDELY DEPLOYED TODAY?

A. Deployment of BPL technologies has accelerated rapidly in recent years with the deployment of more than 50 pilot projects throughout the U.S. and commercial deployments now in place or underway in several states, including two in Virginia. In a 2006 Report of the Broadband Over Power Lines Task Force, the National Association of Regulatory Utility Commissioners noted:

> The year 2005 marked an interesting, albeit mixed, year for BPL. The year's highlights saw encouraging signs that BPL may enhance broadband competition and electric utility functionality on a more widespread basis. BPL supporters could point to such developments as commitments to BPL by major media and technology companies, new trial start-ups, new full-scale

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$34.95. Current is deploying BPL to over 2 million homes and business in the Dallas-Ft. Worth area, in conjunction with TXU Electric Delivery. *See* http://www.current.net/ServiceAndPricing/Residential/Voice/PricingAndBenefits/ and http://www.current.net/OurCompany/PressReleases/PressReleasesDetails/?pressid=15.

[181] May 2006 GAO Report at 59.

[182] *Id.*

[183] *See In the Matter of United Power Line Council's Petition for Declaratory Ruling Regarding the Classification of Broadband over Power Line Internet Access Service as an Information Service*, WC Docket 06-10, Memorandum, Opinion and Order (FCC, November 7, 2006) (available at http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-06-165A1.pdf); see also Margaret Reardon, "FCC To Clarify Rules for Powerline Broadband," News.com (October 31, 2006) (available at http://news.com.com/FCC+to+clarify+rules+for+powerline+broadband/2100-1034_3-6131274.html, last viewed November 16, 2006).

commercial deployments, and realization of benefits from application of Smart Grid principles.[184]

It is also worth noting that in May 2006, Current Communications attracted $130 million in equity investments from new and existing investors to accelerate the deployment of BPL. New equity investors are General Electric, EarthLink, (which will serve as a retail provider of Current's broadband services), TXU Corp, and Sensus Metering Systems, which provides meter-reading products. Existing equity investors include Duke Energy, EnerTech Capital Partners, Goldman, Sachs & Co., Google, Hearst, and Liberty Associated Partners LP, an investment partnership between Liberty Media and the Berkman family.[185]

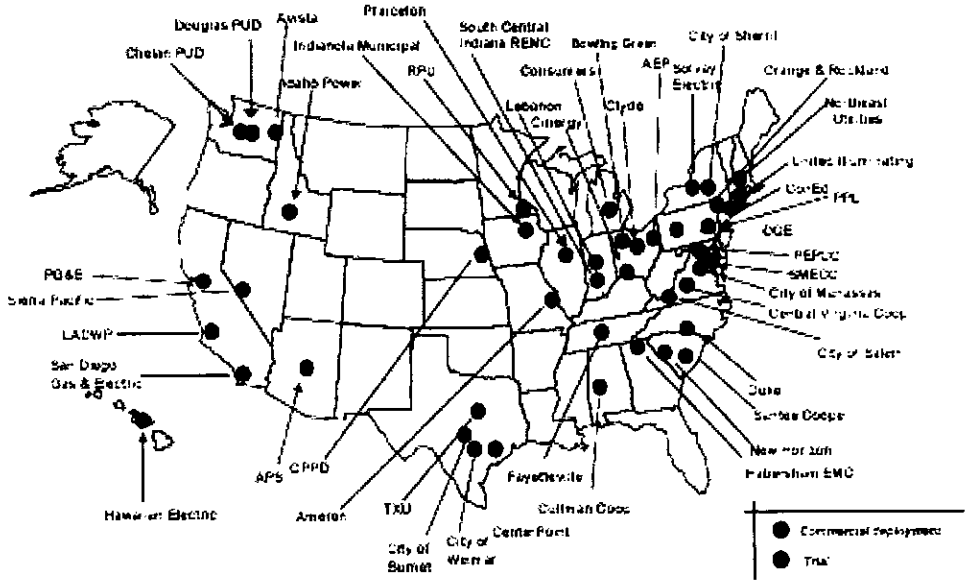
[184] The National Association of Regulatory Utility Commissioners, *Report of the Broadband Over Power Lines Task Force,* February 2006, p. 2. The Report also mentioned that 2005 saw:

> news that several BPL trials ended unsuccessfully. BPL detractors continued to question the long-term sustainability of the technology, especially when confronted with the faster deployment and superior funding of its two largest broadband competitors, cable television's cable modem service and telecommunications providers' DSL service. Those who contend that BPL interferes with ham radio and other radio applications also maintained their opposition to deployments of certain BPL technologies.

[185] CED Magazine, BPL Specialist Current Raises $130 M, May 4, 2006.

As shown in the map below, suppliers continue to deploy BPL throughout the country, including Virginia.[186]

BPL Deployment Map



Q. WHERE IS BPL BEING USED IN VIRGINIA?

A. BPL has been deployed in several locations in Virginia. In early 2005, the City of Manassas, in partnership with Communication Technologies, announced the commercial deployment of BPL to 12,500 households and 2,500 businesses. Also, The City of Radford announced in February 2006 that it will have Internet service available through its city-owned power grid.

[186] Map from The National Association of Regulatory Commissioners, *Report of the Broadband Over Power Lines Task Force,* February 2006, Appendix B-1.

The most wide-spread and competitive deployment, however, began in April 2004, when the Central Virginia Electric Cooperative ("CVEC") and International Broadband Electric Communications ("IBEC") began providing BPL service in a market pilot area that included 4,000 homes along 500 miles of CVEC electric lines in Nelson County.[187] By December 2005, the service was available in an area covering a small section of eastern Amherst County, as well as a part of Nelson County around Colleen and Lovingston. According to IBEC's CEO, surveys had shown that about 46 percent of potential customers in the area were interested in the service.[188]

In August 2005, IBEC received a $19.2 million loan from the U.S. Department of Agriculture's Rural Utility Service to help fund the continued deployment of this and other similar BPL projects.[189] IBEC is now laying out the installation strategy to implement BPL throughout the 30 CVEC substations. As the new equipment arrives from the manufacturing plant, multiple crews will begin deployment of the BPL service. The service is $29.95 per month for residential services and $69.95 per month for business class services for a 256 kbs broadband connection.[190]

[187] TGDaily, $30 Powerline Broadband Service Starting Up, March 26, 2004.

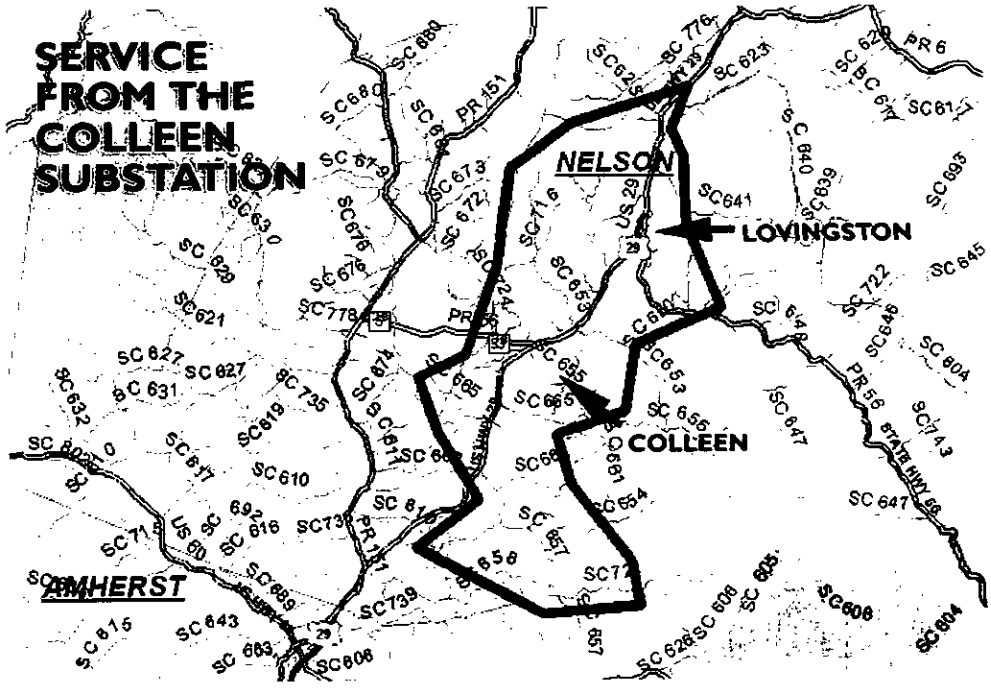
[188] The News & Advance, Lynchburg, Virginia, *Service Hooks Rural Residents to Internet*, December 11, 2004.

[189] The National Association of Regulatory Commissioners, *Report of the Broadband Over Power Lines Task Force*, February 2006, p. 6.

[190] *See* http://www.forcvec.com/bplcoop/index.html (accessed November 30, 2006).

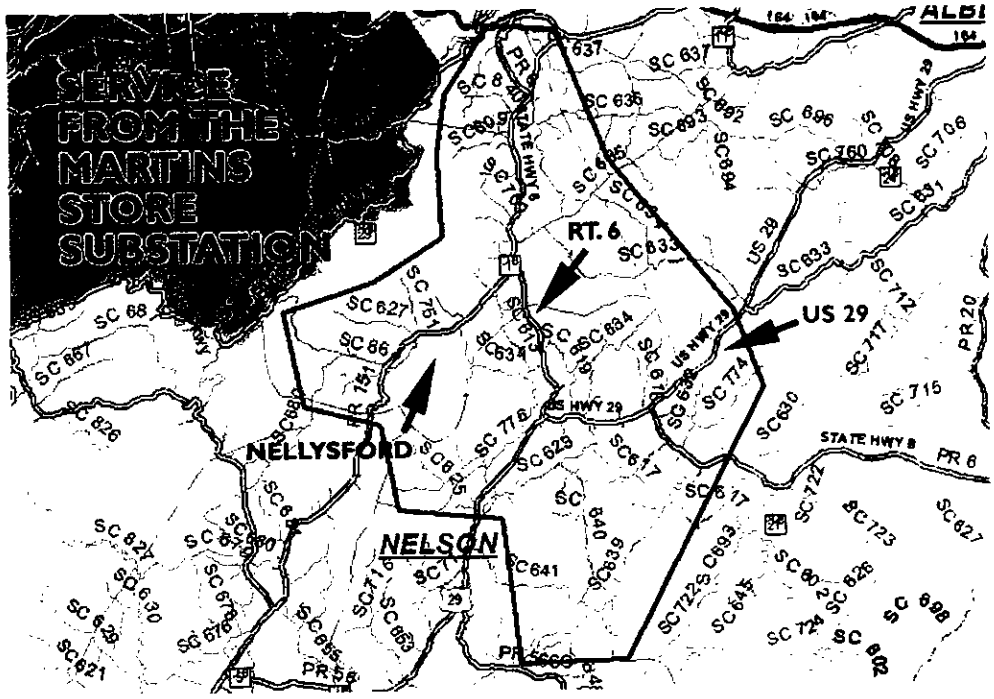
The two areas currently served are shown in Figures 15 and 16 below.[191]

Figure 15
CVEC's Colleen Substation Service Territory



[191] *See* Maps from http://www.forcvec.com/bplcoop/where/index.html (accessed June 30, 2006).

Figure 16
: CVEC's Martins Store Substation Service Territory

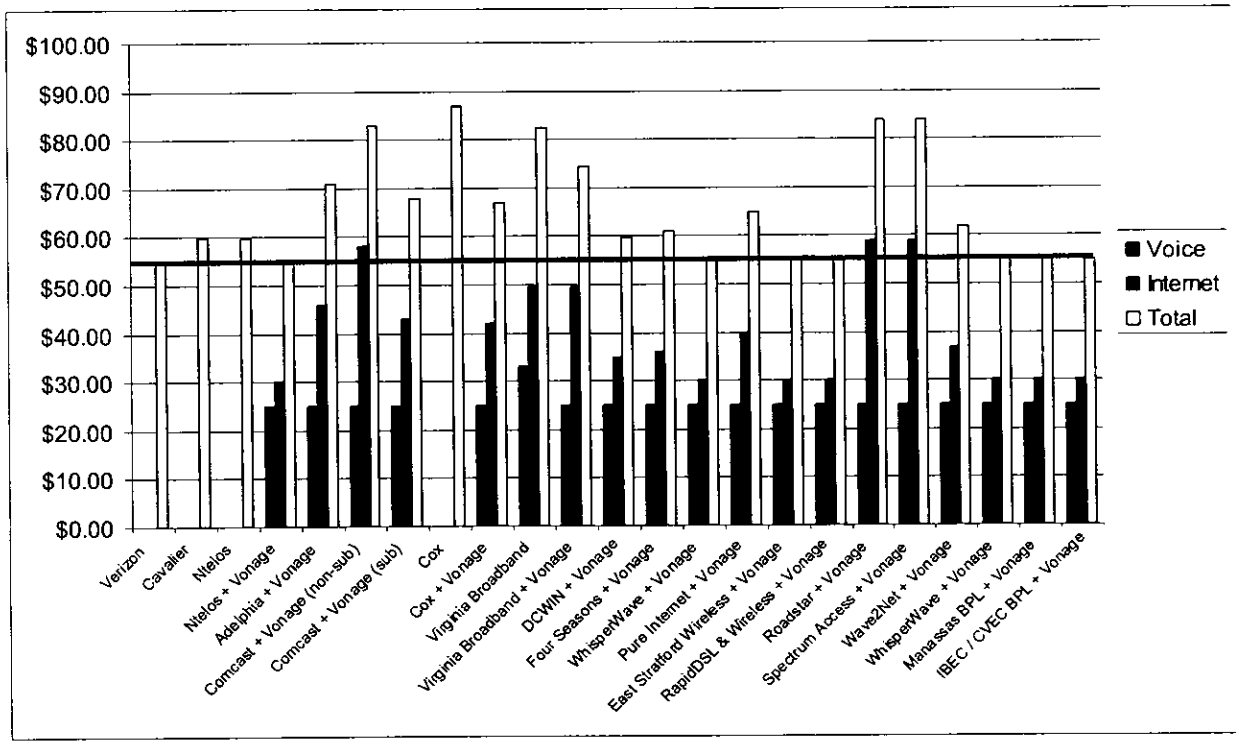


Q. ARE THE BROADBAND SERVICES OFFERED BY WIRELESS AND BPL PROVIDERS PRICE-COMPETITIVE WITH WIRELINE BROADBAND?

A. Yes. As shown in Figure 17 below, these companies offer broadband services at prices that allow consumers to purchase telephone service from bypass VoIP providers and still pay about the same amount as they would pay for a comparable bundle from Verizon or other wireline broadband providers. Moreover, these services are often available in areas where wireline broadband services are not.

FIGURE 17

Broadband Services



Source: Criterion Economics based on company web sites.

Q. PLEASE SUMMARIZE YOUR TESTIMONY CONCERNING THE COMPETITIVENESS OF RESIDENTIAL SERVICES.

A. The evidence I have presented shows that entry barriers into the Virginia residential markets have been eliminated, competitors are present and providing like or substitutable services for Verizon's residential services throughout its service area. This evidence supports a finding that Verizon's residential services are competitive.

Dr. Eisenach explains in his testimony that while competition in rural areas is less extensive than in the more urban areas, current and imminent levels of competition provide adequate assurance that the market will effectively regulate prices of Verizon's services in all regions of its service territory. Through his examination of the state of actual and potential competition in each of the ten MSA regions and six non-MSA regions that represent Verizon's service territory in the Commonwealth, Dr. Eisenach concludes that the existence of actual competition throughout Virginia, including the fact that the vast majority of consumers in the Virginia regions have the choice to switch to services provided by facilities-based competitors, combined with the fact that entry is now economically viable even in areas where actual competition is less extensive, means that competition or the potential for competition are already regulating the prices for these services, and that prices for these services should be deregulated.

2. Numerous Competitors Are Reasonably Meeting the Needs of Small Business Customers.

a. Cable Competitors

Q. ARE CABLE COMPANIES REASONABLY MEETING THE COMMUNICATIONS NEEDS OF SMALL BUSINESS CUSTOMERS IN VERIZON'S SERVING AREA?

A. Yes. While the cable MSOs originally targeted residential customers with their telephony offerings, they are now serving business customers, in particular small business customers. Each of the cable companies serving Virginia small business customers offers a full array of competitively priced business services that are competitive alternatives to Verizon's services. Moreover, business customers throughout the Commonwealth are utilizing broadband services provided by cable companies. As described in more detail by Mr. Newman, 33 percent of business customers in Verizon's territory use digital or high capacity lines of some type, predominantly from cable modem lines.[192]

Q. PLEASE PROVIDE A PROFILE OF THE MAJOR CABLE COMPANIES SERVING SMALL BUSINESSES IN VERIZON'S SERVICE AREA.

A. Three major cable companies serve small business customers in Verizon's Virginia service area.

- **Comcast** offers services tailored to small businesses. As of March 2006, **[BEGIN CONFIDENTIAL]**

[192] As explained in more detail in Mr. Newman's testimony, the survey sample included business customers in Verizon's service territory that employ less than 500 employees. **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL].

END CONFIDENTIAL] business access lines in Verizon's service territory. On its web site, Comcast advises small businesses:

> Comcast offers your business a choice when selecting Internet services. Choose Comcast Workplace for a 100% pure broadband connection to the Internet with download speeds up to 8 Mbps, five times faster than DSL. Comcast Workplace is available in either a Standard or Enhanced version, both with standard firewall security and a dedicated business-class support team to assist you 24 hours a day. Need more bandwidth or a scalable connection? Choose Comcast Enterprise Internet Service for a virtually unlimited dedicated Internet access solution that offers symmetrical Internet access starting at 5Mbps and providing the flexibility to scale in 1Mbps increments. With either solution, there is no new equipment to buy or local loop charges. Just pure broadband access from one of the nation's leading providers.[193]

- **Cox** also serves small business customers in Virginia. As of March 2006, **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]. Its offerings include Cox Digital Telephone, and Cox Business Internet.

- **Charter** offers "Great Solutions for Small and Medium Businesses" including Charter's "Accelerator +" services.[194] That service includes high

[193] *See* Comcast company web site at http://www.comcastcommercial.com/index.php?option=content&task=view&id=19 (accessed October 30, 2006).

[194] *See* http://www.charter-business.com/SmallMediumBusiness.aspx (accessed June 6, 2006).

speed business Internet access service that "offers a full suite of add-on services to support your business and your customers."[195]

Q. IS COMPETITION FROM CABLE COMPANIES EXPECTED TO INCREASE OVER TIME?

A. Yes, particularly as cable companies expand their roll-out of IP-based telephony and begin using VoIP technology to serve small business customers.

b. Wireless Providers

Q. ARE WIRELESS PROVIDERS REASONABLY MEETING THE COMMUNICATIONS NEEDS OF SMALL BUSINESS CUSTOMERS IN VERIZON'S VIRGINIA SERVING AREA?

A. Yes. Small businesses find that wireless services enable them to minimize costs and maximize their ability to respond to customers. In a report issued in August 2005, the Yankee Group stated that "[m]obile voice and data solutions are rapidly becoming mainstays of productivity enhancement and operational efficiency for [small and medium-sized businesses ("SMBs")].[196] Mobile workers are increasingly relying on devices such as mobile phones and PDAs to stay connected and receive data from their offices."[197]

Among the more innovative solutions being introduced is the pooling of minutes that small businesses can use with both wireline and wireless phones. Such pooling enables companies with as few as four lines to share unused minutes among wired and wireless employees while limiting exposure to unforeseen

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[195] *Id.*

[196] The Yankee Group, "*4SmartPhone's Wireless E-Mail Solutions Improve Productivity of SMBs*," August 30, 2005, at p 1.

[197] *Id.*

expenses when they exceed planned minutes. In addition, a company named 4SmartPhone "delivers a highly available, affordable and portable mobility solution for SMBs" that, according to the Yankee Group, "doesn't require SMBs to install any software on users' mobile devices or desktop PCs, nor does it require PCs to be on and connected at all times. .... The service can scale with the customer's needs from one to a virtually unlimited number of uses. It's wireless carrier independent and works just as well on a Wireless Local Area Networks ("WLAN") provided the SMB has a data connection to the device." [198]

Q. PLEASE PROVIDE A PROFILE OF SOME OF THE WIRELESS PROVIDERS THAT SERVE SMALL BUSINESS CUSTOMERS IN VIRGINIA TODAY.

A. Each of the wireless services providers that serve residential customers also serve business customers and, in particular, small business customers.

- **Alltel** advertises its business service as having

> the coverage and flexibility you need, at a reasonable price. Whether you travel coast-to-coast, commute between major cities or keep business local, our wireless plans work in as many places as you do.[199]

Alltel National Freedom plans include free long distance calls to major cities and free roaming near major cities. Alltel has comprehensive local calling plans for businesses that do not require extensive long distance coverage.[200]

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[198] *Id.*

[199] *See* http://www.alltel.com/business/wireless/plans/ (accessed July 11, 2006).

[200] *Id.*

- **Cingular Wireless** claims to be the "industry leader in wireless business solutions for businesses of all sizes" and boasts of its "Small Business Specialists."[201] It offers small business customers "Cingular Business Edge" service, which is "designed ... to answer the needs and priorities of small businesses like yours." [202]

- **Sprint/Nextel** is

> committed to delivering complete small business-focused solutions when and how you need them. With 100+ years of telecommunications expertise and growing a strong understanding of your business we're capable of channeling our broad portfolio of services and expertise to satisfy your ever-changing business needs.[203]

Sprint/Nextel enables small business customers to "assemble a customized suite of products and services from our comprehensive telecommunications menu."[204] It offers

> innovative voice and data options, including: Voice – local and long distance phone service, calling cards, and interactive toll-free, to name a few; Data – dedicated IP, ISDN, VPNs (virtual private networks), and Web Conferencing, are just a few examples.[205]

[201] *See* http://www.cingular.com/sbusiness (accessed June 6, 2006).

[202] *See* http://www.cingular.com/sbusiness/cbe (accessed June 6, 2006).

[203] *See* http://www.sprint.com/business/products/categories/small_details_tabA.html (accessed June 6, 2006).

[204] *See* http://www.sprint.com/business/products/categories/small_details_tabC.html (accessed June 6, 2006).

[205] *Id.*

- **T-Mobile** provides "more minutes, features, and service to keep your business more connected."[206] T-Mobile offers data, messaging and international calling solutions to businesses of all sizes.[207]
- **Verizon Wireless** offers plans designed specifically for business "offering customers value and services that maximize their wireless experience."[208] With wireless e-mail customers can "be more productive on the go!" and can "Send and receive e-mail anytime without a computer."[209] Additionally, Verizon Wireless "offers mobile service applications that can lower costs and increase efficiency"[210] for a customer's specific business.

Q. ARE SMALL BUSINESSES UTILIZING WIRELESS PHONES IN CONDUCTING BUSINESS IN VIRGINIA TODAY?

A. Absolutely. As Mr. Newman explains in more detail, 56 percent of business customers within Verizon's service territory use wireless phones in the process of conducting business. Of those business customers using wireless phones, 17 percent rely upon wireless as their primary source of communication for voice services, and 6 percent have reduced their usage of wireline phones, or in some instances have even replaced their wire line phones with wireless service.

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[206] *See* http://www.t-mobile.com/shop/plans/detail.aspx?tp=tb1&id=747fa764-3aaa-408d-8920-c2336102b8b3 (accessed July 24, 2006).

[207] *See* http://www.t-mobile.com/business/Solutions.aspx (accessed July 24, 2006).

[208] *See* http://b2b.vzw.com/productsservices/ accessed November 14, 2006).

[209] *Id.*

[210] *Id.*

Q. IS WIRELESS SERVICE USAGE EXPECTED TO INCREASE AMONG SMALL BUSINESSES?

A. Yes. Although small businesses have not historically been the main focus of wireless providers, market analyst IDC advises, "[t]hat's about to change."[211] In reporting on a new mobile wireless product offered by Cbeyond, a provider of voice and data communications for small businesses, IDC offered the following insights regarding increased wireless usage among small businesses:

> The use of mobile phones by [small and medium-sized businesses ("SMBs")] will be a major growth area for service providers in the next five years as small companies upgrade and expand their telephony equipment. Within the fewer-than-10-employees segment of the SMB market, which accounts for almost 84% of companies in the United States, there is strong use of mobile phones. Just over 84% of these companies are using mobile phones, with 2.6 phones per company. As the costs of moving business out of the office onto mobile devices continues to fall, SMBs will shift more of their spending to mobile solutions. Offers such as pooled minutes over multiple platforms with limited overage penalties will help drive this trend and, potentially, brand loyalties.[212]

IDC "expects the trend of increased service offerings for smaller companies to continue, especially as new technology facilitates the process for service providers."[213]

The Yankee Group also forecasts increased use of wireless services among small business customers:

> Mobile voice and data solutions are rapidly becoming the mainstays of productivity enhancement and operational efficiency. According to data from the Yankee Group *2005 Transatlantic Wireless*

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[211] IDC Product Flash, "*Cbeyond Offers Wireless/Wireline Small Business Solution That Changes Competitive Landscape by Offering Pooled Minutes*" (February 2006).

[212] *Id.*

[213] *Id.*

Business Survey, within the next 3 years SMBs will rely more on a variety of integrated wireless data and voice devices, including smart phones, PDAs and dual-mode WLAN/cellular phones. A doubling or tripling of current penetration levels of penetration underscores the benefits businesses achieve with converged wireless voice and data solutions.[214]

c. Broadband Competition

Q. ARE BROADBAND SERVICE PROVIDERS REASONABLY MEETING THE COMMUNICATIONS NEEDS OF SMALL BUSINESS CUSTOMERS IN VERIZON'S SERVING AREA?

A. Yes. Broadband access is widely available to small business customers throughout the Commonwealth in the same way that it is available to residential customers. Small businesses are now able to obtain broadband services, and with them VoIP services, from a host of services providers in all parts of Verizon's service area.

Q. WHICH PROVIDERS SERVE SMALL BUSINESS CUSTOMERS WITH BROADBAND SERVICES?

A. The very same broadband services providers that serve residential customers also serve small business customers. As with residential customers, the availability of broadband services to small business customers expands the customers' choices in that they can obtain VoIP service from any of the VoIP providers currently serving small business customers.

[214] August 2005 Yankee Group Report, p. 4.

d. VoIP Providers

Q. HOW IS VOIP TECHNOLOGY USED IN THE SMALL BUSINESS MARKET SEGMENT?

A. TCMNet recently reported that:

> Small companies are increasingly choosing Voice over Internet Protocol (VoIP) hosted business phone packages, like Packet8's Virtual Office, instead of conventional telephone systems. VoIP can mean a lot more than just savings to a small business. The greater versatility of hosted VoIP allows each business to tailor a telecommunications package, regardless of geography, specifically to meet its needs without spending heavily on equipment, installation, maintenance or an IT staff. All that's needed is a broadband connection and the Virtual Office service to create a low cost, high feature, professional telephone system for companies with as few as three employees in the same office, region or spread across the globe.[215]

Q. ARE VOIP SERVICE PROVIDERS REASONABLY MEETING THE COMMUNICATIONS NEEDS OF SMALL BUSINESS CUSTOMERS IN VERIZON'S VIRGINIA SERVING AREA?

A. Yes. The VoIP providers currently serving residential customers serve small business customers as well. They offer a full array of business services that are competitively priced against Verizon's business services. Moreover, small business customers in Virginia are using VoIP technology today. As Mr. Newman explains, over two-thirds of businesses are aware of VoIP service, and nearly 6 percent subscribe to a VoIP provider. However, as explained in the mass market section previously, these results are likely understated as the survey focused only on subscribers with a Virginia NPA-NXX belonging to Verizon or other local Virginia service providers. Those VoIP customers in

[215] *See* http://www.tmcnet.com/channels/small-business-voip/ (accessed June 8, 2006).

Virginia with telephone numbers from other areas of the world would have been excluded from the sample.

Q. PLEASE PROVIDE A PROFILE OF SOME OF THE VOIP PROVIDERS SERVING SMALL BUSINESS CUSTOMERS IN VIRGINIA.

A. **at&t** also provides VoIP service to small businesses in Virginia. Its small business VoIP offering includes unlimited local and long distance, faxing and calling in the U.S. and to Canada for the 1st line, and 500 LD minutes for faxing and calling throughout the U.S. and to Canada on 2nd line, plus: "exciting advanced features; your favorite traditional features; and fax capability on both lines."[216]

iConnectHere: DeHathree, Inc., headquartered in New York, NY, is a provider of VoIP services. The Company has built a privately managed, global network using IP technology and it offers its customers a suite of IP telephony products, including PC-to-Phone, Phone-to-Phone, and Broadband Phone. The provision of enhanced web-based services to individual consumers is made under the Company's iConnectHere brand name. Plans start as low as $6.99 per month, with per minute charges that vary by country called.[217] An unlimited calling plan, BizCall Unlimited Plan, is available for $49.99.[218]

Lingo advertises a potential 80% savings on traditional phone service through great calling plans and lots of features all included for one low price. With

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[216] *See* http://businessesales.att.com/products_services/voipproduct_index.jhtml;jsessionid=V0EWDYWECZ24RQFIHOHSKUGAVA3ZAJLW (accessed July 19, 2006).

[217] *See* http://iconnecthere.com/nonmembers/eng/broadband_phone/index.htm (accessed November 14, 2006).

[218] *See* http://www.1866voip.com/voip-provider-iconnecthere.html (accessed November 14, 2006).

Lingo's Business Unlimited VoIP service, priced at $49.95 per month, customers receive:

- Unlimited business calling to anywhere in the U.S., including HI, AK, USVI and PR
- Unlimited business calling U.S. and Canada
- Free FAX Line including 500 outgoing minutes of faxing at no additional charge
- Local Number Portability so you can keep your business' phone number
- Online Account Management makes it easy to manage your settings, voicemail and more over the Internet
- Select a phone number from over 220 US area codes (International and additional US phone numbers are available for an additional monthly fee)
- Plus, all the Advanced and Basic Features[219]

myPhoneCompany promises to "take voice telephony to new heights of versatility and affordability," offering the "quality and clarity of standard phone service, but at a much lower price, because calls are rated and received via a broadband connection."[220] myPhoneCompany makes available a package for $44.99 – "Best Office value" – that includes unlimited U.S. and Canada calling on the first line, plus an allowance of 250 minutes on a second voice/fax line, plus over 15 free features.[221]

Net2Phone offers small business customers its VoiceLine VoIP service. Net2Phone's User's Guide advises:

> With VoiceLine, small business owners don't need to worry about missing an important call. For example, a business trip may take your customers from India to England and then to France, but because their VoiceLine phone numbers are linked to a portable, VoiceLine enabled phone (and

[219] *See* http://www.lingo.com/voip/business/unlimited_internet_phone_service.jsp (accessed November 14, 2006).

[220] *See* http://www.myphonecompany.com/aboutus.aspx (accessed November 14, 2006).

[221] *See* http://www.myphonecompany.com/default1.aspx (accessed November 14, 2006).

not to a specific location such as their offices), the Voice Line can travel with them.[222]

Among the "Great Features" that Net2Phone's VoiceLive service offers small business customers are voicemail, three way calling, Caller ID, call waiting, call hold, etc. Net2Phone touts its Max 430 Broadband Product as a "Small Business and Internet Café solution" that enables users to make up to four simultaneous calls without being limited to the physical location of the unit. The FXO line can be dedicated to off-premise calling, allowing small business customers to dial into the Max and make low-cost calls from any phone, anywhere.[223]

Packet8 provides a Virtual Office Business VoIP Service which the company describes as a "[VoIP-] hosted PBX service, small business phone system alternative that allows small to medium-sized businesses (SMB) anywhere in the world to employ an unlimited number of extension options and enjoy geographic independence and flexibility."[224] For $39.95 per month per extension, a small business customer obtains unlimited local and long distance calling to the U.S., Canada and other Packet8 subscribers worldwide, a host of vertical features and other advanced PBX functions such as auto attendant, business class voicemail, extension dialing and ring groups.

Vonage offers small businesses two service plans. Vonage's Small Business Basic Plan, which costs $39.99 per month, provides unlimited incoming minutes, 1500 outgoing "anytime, anywhere" minutes per month, dedicated fax line at no

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[222] VoiceLine Residential Voice Over IP Telephone Service User's Guide, 2005, p. 2.

[223] http://www.net2phone.com/partnerships/distributors/product/broadband/max430.asp (accessed June 8, 2006).

[224] http://www.packet8.net/about/virtual_office.asp (accessed June 8, 2006).

additional cost, and features such as call waiting, caller ID, and call forwarding.[225] Vonage's Small Business Unlimited Plan, which costs $49.99 per month, includes unlimited local and long distance calls anywhere in the United States, Canada, Puerto Rico and select European countries, dedicated fax line at no additional cost, and a host of vertical features.[226] Both plans come with a money back guarantee and, for small business customers that sign up directly, a free phone adapter.

[225] *See* http://www.vonage.com/products_basic_sb.php (accessed June 8, 2006).

[226] *See* http://www.vonage.com/products_premium_sb.php (accessed June 8, 2006).

Q. DO VOIP PROVIDERS OFFER VOICE SERVICES AT RATES THAT ARE COMPETITIVE WITH VERIZON'S WIRELINE SERVICES?

A. Yes. As shown in Table 5 below, VoIP providers offer small business customers competitively-priced monthly calling plans that typically include unlimited anytime local and long-distance minutes:

Table 5
Virginia VoIP Plans – Small Business Customers

Provider	Plan	Area Codes or Counties Offered	Monthly Price	Anytime Minutes	Additional Minutes	Long Distance
(a)	(b)	(c)	(d)	(e)	(f)	(g)
Vonage	Small Business Unlimited	540, 571, 703, 757, 804.	$49.99	Unlimited	N/A	Included
Vonage	Small Business Basic		$39.99	1,500	$0.04	Included
at&t	CallVantage 2-Line Plan[1]	Anyone meeting the technical requirements for AT&T CallVantage Service, regardless of their geographic location, can sign up for the service. at&t will be rolling out service in additional geographies in the future.	$49.99	Unlimited (1st Line)	N/A	Included
Lingo	Business Unlimited[2]	Accomack, Alexandria City, Arlington, Augusta, Bedford, Botetourt, Chesapeake City, Fairfax, Loudoun, Nelson, Norfolk City, Portsmouth City, Prince William, Roanoke, Roanoke City, Rockingham, Salem City, Stafford, Staunton City, Suffolk City, Surry.	$49.95	Unlimited	N/A	Included
Net2Phone	VoiceLine - US/Canada Unlimited	276, 434, 540, 571, 703, 757, 804.	$29.99	Unlimited	N/A	Included
Packet 8	Virtual Office Unlimited Extension[4]	Anywhere in VA with a high-speed connection.	$39.99/ extension	Unlimited	N/A	Unlimited
Packet 8	Virtual Office Metered Extension		$19.99/ extension	250	0.039	Included
Packet 8	Business 2000		$34.99	2000	0.035	Included
iConnectHere	BizCall Unlimited	276, 434, 540, 571, 703, 757, 804.	$49.99	Unlimited	N/A	Included
myphonecompany.com	My Office Unlimited US & Canada + 2nd Voice/Fax Line	276, 434, 540, 571, 703, 757, 804.	$44.99	Unlimited (1st Line)	N/A	Included

Sources & Notes:

Provider web sites.

[1] CallVantage 2-Line plan includes unlimited faxing to the US and Canada. The second line comes with 500 long distance faxing and calling minutes per month.

[2] Lingo Business plans include 500 outgoing fax minutes. The Unlimited Business International plan includes calls to many international countries.

[3] Sun Rocket plans include calls to US, Canada and Puerto Rico.

[4] A minimum of 3 extensions must be subscribed in order to activate this service.

e. CLECs

Q. WHAT EMPIRICIAL EVIDENCE IS AVAILABLE TO SHOW THAT CLECS ARE PRESENT IN THE MASS MARKET AND REASONABLY MEETING THE NEEDS OF SMALL BUSINESS CUSTOMERS?

A. CLECs currently serve a growing number of small business customers in Verizon's service area. Moreover, CLECs have actually deployed their own facilities – and are literally physically present – throughout Verizon's service area. Line count data provide an estimate of the number of business customers each CLEC serves either using its own facilities or leasing Verizon facilities. In addition, survey results show, among other things, the number of small business customers that are currently receiving service from another provider, and the number of such customers that have been approached by a competitor to purchase service. CLEC tariffs and web sites show the services that CLECs offer to small business customers.

Q. PLEASE DESCRIBE THE CLEC LINE COUNT DATA YOU HAVE GATHERED.

A. Tab 14 of the Regional Binders provides aggregate CLEC business line count data for each MSA and non-MSA region in Verizon's service territory. The data include: (1) the number of Verizon's retail business access lines; (2) the number of wholesale lines purchased from Verizon and resold by CLECs to their retail business customers; (3) the number of Wholesale Advantage lines purchased from Verizon by CLECs to provide service to their retail business customers; and (4) an estimate of the number of lines served by CLECs entirely over their own facilities, as well as cases where they lease UNE loops but use their own switches. As with the CLEC residential line counts, CLEC business line counts are compared to Verizon retail business line counts, with CLEC business line

counts expressed as a percentage of total business wireline access lines. As discussed below, competition exists for business services in every MSA and non-MSA region in Verizon's serving area. Additionally, all three modes of competition – resale, Wholesale Advantage and facilities-based – can be found in the MSAs and non-MSA regions.

Q. WHAT IS THE SOURCE OF THE BUSINESS ACCESS LINE DATA PROVIDED IN TAB 14 OF THE REGIONAL BINDERS?

A. The sources of these data are the same as those used to gather residential access line data.[227]

Q. WHAT DO THE LINE COUNT DATA SHOW REGARDING THE CLEC MARKET SHARES IN THE BUSINESS SEGMENT OF THE MASS MARKET IN VERIZON'S SERVICE AREA?

A. Again, while market share data do not tell the entire competition story, available market share data indicates that CLEC competition is robust in Virginia. As of March 2006, CLECs serve approximately **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]

percent increase in CLEC business lines since 2003.

Since 2003, Verizon has experienced business line losses in **[BEGIN CONFIDENTIAL]**

[227] *See* pages 88-90 of this testimony for discussion on data sources.

[END CONFIDENTIAL].

Although the line count data relate to business lines generally and include lines that serve enterprise (that is, medium-sized and large business) customers, these data are nonetheless compelling evidence of competition for small business customers. CLECs serving enterprise customers can readily serve small business customers either by using the facilities serving enterprise customers or by using Verizon's wholesale services. Developments in technology have decreased the costs of using facilities currently used to serve large businesses to serve small businesses as well.

Q. PLEASE PROVIDE A PROFILE OF THE MAJOR TRADITIONAL WIRELINE CLECS SERVING SMALL BUSINESS CUSTOMERS IN VERIZON'S VIRGINIA SERVICE AREA.

A. The following are some of the major carriers serving small business customers in Verizon's Virginia service area:

- **at&t** serves approximately **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] business access lines using Verizon's Wholesale Advantage service offering. at&t offers small

business customers its "All in One" plans. The All in One Advantage plan offers small businesses unlimited local, state-to-state and regional long distance services for $53.95 per month.[228] The All in One Enhanced and All in One Standard plans offer small business customers competitive long distance rates and local minutes of service.[229]

- **Cavalier Telephone** provides local voice and data service to small business customers located in **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]. Cavalier uses its network to provide a wide variety of business service. Its business service includes local calling services, long distance, private lines, internet access T1 to OC-x, multi-use T1 (voice & data), DSL to 15 mbps, web hosting, domain name management, virtual private networks, phonom VoIP, phonom IP centrex etc. As mentioned above, the merger between Talk America and

[228] *See* http://businessesales.att.com/products_services/allinonecommondisplay.jhtml;jsessionid=YYVJXUL5LXKQLQFIHOISKUGAVA3Y4JLW?_requestid=32683 (accessed November 30, 2006).

[229] *Id.*

Cavalier will create one of the largest competitive communications companies in the United States.

- **NTELOS** serves approximately **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]** business access lines in Verizon Virginia's service area either wholly or partially over facilities it has deployed itself. NTELOS' wireline business is supported by an extensive 1,500-mile fiber optic network that is used to back-haul communications traffic for its own retail services and to provide wholesale transport services to other telecommunications carriers for their long distance, internet, wireless and private network services.[230] Additionally, NTELOS offers leading-edge data transport services and broadband internet access across its footprint. NTELOS' voice offerings include voice service, Centrex, Primary Rate ISDN services, Long Distance Service and Customer Calling Services.

- **TelCove** is a leading provider of business services, developing, building and operating its own fiber optic network. TelCove serves, **[BEGIN CONFIDENTIAL]**

[230] *See* http://www.ntelos.com/landline/buisness/bnetwork.html (accessed November 14, 2006).

[231] *See* http://www.telcove.com/products/business-lines.asp (accessed November 14, 2006).

[END CONFIDENTIAL].

- **XO** offers a broad portfolio of services that include voice, data and integrated bundled offerings tailored for the business customer. Although XO serves most market segments for communications services, it focuses on small to medium-sized business customers. As of March 2006, **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]. As it expands its VoIP products, XO expects to continue to attract and maintain new small to medium-sized business customers.

These are just a few of the CLECs serving small business customers in Verizon's service area. Exhibit VA-23 contains a profile of each of the CLECs offering mass market services in competition with Verizon and the services they are offering.

Q. DO CLECS OFFER SMALL BUSINESS CUSTOMERS SERVICES UNDER TERMS AND CONDITIONS THAT ARE COMPARABLE TO VERIZON'S SERVICES?

A. Yes. As shown in the Regional Binders, Tab 14, CLECs provide or can provide some form of alternative offering to Verizon's business services in every MSA and non-MSA region that Verizon serves.

Moreover, as shown in Table 6 below, some of Verizon's main wireline competitors provide small businesses bundled plans that are competitive with those of Verizon:

Table 6

Virginia Small Business Bundled Plans

Bundled Service Offerings for Small and Medium Business Customers in Virginia

Provider	AT&T	Cavalier Telephone	NTELOS	Telcove	XO
Plan	All In One Advantage	Business	Integrated Access		Integrated Access
Description	This plan is recommended for business with heavier volumes of long distance and local calling.		NTELOS' newest business solution can integrate local voice, long distance, voicemail, and broadband Internet access in a cost-effective package.	Whether your business is large or small, TelCove has your voice solution covered. From business trunks to long distance from calling cards to voicemail, our local and long distance products fulfill your everyday voice communication	Scalable and affordable solution combining cost-effective local and long distance calling with reliable Internet access.
Price Range (if available)	$53.95 per month per line				
Voice					
Long Distance	✓	✓	✓	✓	✓
Toll Free				✓	✓
Calling Card					✓
Local	✓	✓	✓		✓
Internet Services					
Internet Access		✓	✓	✓	✓
VPN		✓		✓	
Voice Over Broadband		✓		✓	
Domain Name Management		✓			Available with XO Web Sites option
Other Internet		✓			
Promotion	✓				
Services can be bundled	✓				
Other Services		Frame Relay, DS3-OC-x	Web Hosting, Managed Dedicated	ISDN PRI and BRI, Centrex, IP	

Note:
Not all information is available for all plans/providers.

Source:
AT&T: All In One - http://businessesales.att.com/products_services/allinonecommondisplay.jhtml.
Cavalier Telephone: Business Services - http: www.cavtel.com/business/index.shtml.
NTELOS: Integrated Access - http: www.ntelos.com/wireline/b_voiceover.html.
Telcove: Product Data Sheets - http: www.telcove.com/products/data-sheets.asp.
XO: Integrated Access - http: www.xo.com/products/smallgrowing/integrated/integratedaccess/index.html

Q. HAS CLEC COMPETITION FOR SMALL BUSINESS CUSTOMERS BEEN LIMITED TO VIRGINIA'S METROPOLITAN AREAS?

A. Not at all. As with competition for residential customers, the most aggressive competition for small business customers is in the Virginia Beach area. However, CLECs also offer local exchange and a full range of other communications services to small business customers in the more rural areas such as **[BEGIN CONFIDENTIAL]** **[END CONFIDENTIAL]**. Like residential customers, small business customers in every MSA and non-MSA region have competitive choices for all of Verizon's services.

Q. IS THERE OTHER EVIDENCE OF COMPETITION FOR SMALL BUSINESS SERVICES IN THE MORE RURAL AREAS OF THE STATE?

A. Yes. The Verizon companies conducted a survey of business customers throughout the Commonwealth, using the methodology described in Mr. Newman's testimony. The survey shows that: **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL]. These survey results provide further evidence that

competition for small business customers exists in all areas of the Commonwealth.

Finally, Dr. Eisenach explains that, while competition is less intense in rural areas, current and imminent levels of competition are sufficient to constrain pricing there. Dr. Eisenach's analysis concludes that the existence of actual competition throughout Virginia - including the fact that the vast majority of consumers in the vast majority of Virginia regions have the choice to switch to services provided by facilities-based competitors - combined with the fact that entry is now economically viable even in areas where actual competition is less extensive, means that competition or the potential for competition already regulate the prices for these services.

Q. WHAT IS THE EXTENT OF THE FACILITIES THAT CLECS USE OR CAN USE TO SERVE SMALL BUSINESS CUSTOMERS IN VERIZON'S SERVICE AREA.

A. The map in Exhibit VA-16 described earlier shows MSAs and non-MSA regions where facilities-based competition exists. These facilities can be used to serve any group of residential or business customers of any size.

Q. ARE THE NUMBER OF SMALL BUSINESS SUBSCRIBERS SERVED BY CLECS LIKELY TO CONTINUE TO INCREASE?

A. Yes, particularly as CLECs increase their reliance on IP-based technology to serve these customers. In an April 2006 study, the Yankee Group reported:

> CLECs have done a much better job preparing SMBs [small and medium-sized businesses] for the converged communications world of VoIP. Twenty-three percent of CLEC SMBs believe they have VoIP phone service today, compared to only 9% of ILEC SMBs. ... Although we don't believe 23% of CLEC SMBs are actually using IP-enabled voice services, we do believe the CLECs have more effectively marketed their solutions as IP-ready, thereby convincing SMBs the CLEC is uniquely qualified to provide next-generation VoIP solutions today.

The ILECs have historically been slow in responding to competitive pressures in the SMB space, and VoIP is no exception. The premises-based vendors such as Toshiba, Nortel, Cisco, NEC and Samsung have consistently pitched the readiness of their VoIP solutions; the CLECs are pitching the readiness of their VoIP solutions, and the ILECs are once again relatively silent.[232]

f. Emerging Technologies

Q. WHAT ARE SOME OF THE EMERGING TECHNOLOGIES USED TO SERVE SMALL BUSINESS CUSTOMERS IN VIRGINIA?

A. Newer technologies currently being used to provide voice services to small business customers in Virginia include Wi-Fi, Wi-MAX and BPL.

(i) Wi-Fi

Q. HOW ARE SMALL BUSINESS CUSTOMERS USING WI-FI?

A. Similar to residential customers, small businesses use Wi-Fi to connect multiple computers to one another, to peripheral devices, and to the Internet, with multiple users possibly sharing one connection. Small businesses can also take advantage of voice services using VoIP in conjunction with Wi-Fi. The Wi-Fi Alliance notes that

> Wi-Fi networks also work well for small businesses, providing connectivity between mobile salespeople, floor staff and behind-the-scenes finance and accounting departments. Because small businesses are dynamic, the built-in flexibility of a Wi-Fi network makes it easy and affordable for them to change and grow.[233]

According to a June 2005 article in Biztech Magazine, business travelers are taking advantage of Wi-Fi hotspots across the country, small businesses are

[232] The Yankee Group, "*How Do SMBs Fare in the CLEC Versus ILEC Matchup*," April 2006, p. 6.

installing Wi-Fi networks in remote locations, and Wi-Fi could be the most cost-effective way for a business to set up a network.[234]

Q. HOW EXTENSIVELY ARE WI-FI SERVICES USED BY SMALL BUSINESSES?

A. Small businesses are increasingly using Wi-Fi services. For example, a recent Forrester survey found that 53 percent of small businesses report using a wireless network regularly. It was predicted that five percent of small businesses would make a first time purchase of wireless local area network ("WLAN") technology in 2006 and 11 percent would make major upgrades to their existing WLAN. These upgrades are partially due to the enabling of voice over WLAN as well as replacing wired components.[235] Wireless networking can be critical to a business because it can measurably boost productivity – whether you are tracking inventory or meeting with customers. A wireless office gives you much more flexibility than a wired office.[236]

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[233] *See* Wi-Fi Alliance, Knowledge Center, *The How and Why of Wi-Fi*, available at http://www.wi-fi.org/knowledge_center/kc-howandwhyofwi-fi/.

[234] W. Wong, *Mobilizing Your Small Business*, Biztech Magazine, June 2005, available at http://www.biztechmagazine.com/article.asp?item_id=37.

[235] M. Speyer and G. O. Young, *Small Businesses Are Heavy Users Of Computing*, Forrester, January 23, 2006.

[236] See http://www.microsoft.com/smallbusiness/resources/technology/broadband_mobility/wifi_unplugged_a_buyers_guide_for_small_businesses.mspx (accessed December 14, 2006).

(ii) Fixed Wireless

Q. HOW ARE SMALL BUSINESSES USING FIXED WIRELESS?

A. Small businesses are using fixed wireless both as a broadband access method and networking medium. In-Stat reports that "[a] single WiMAX base station...can backhaul traffic from cell sites and WiFi hotspots and provide last mile broadband access to homes and enterprises."[237] As detailed in Dr. Eisenach's report, fixed wireless broadband providers in Virginia offer service plans for small businesses. Broadband providers use wireless signals to link small business customers to the Internet, provide data communications and e-mail capabilities. These systems also can be used to provide VoIP type services.

(iii) Broadband Over Powerline

Q. ARE SMALL BUSINESS CUSTOMERS USING BPL SERVICES?

A. Yes. As discussed above, electric utilities partnering with technology companies have been developing BPL. In Manassas, COMTek has partnered with the municipally owned electric power grid to make BPL a reality serving 2,500 businesses in the area. The City of Radford announced in February 2006 that it will have Internet service available through its municipal owned power grid. Radford's Economic Development Director, Basil Edwards said, "Having access to broadband throughout the City is a key requirement for businesses currently in the City or looking to locate here."[238] International Broadband Electric Communications, Inc. ("IBEC") announced a joint BPL program with Central Virginia Electric Cooperative ("CVEC") where IBEC will provide high-speed,

[237] K. Lundgren and N. Bogen, *WiMAX: Challenging the Status Quo*, In-Stat, December 2005, at 10.

always-on Internet access directly over the cooperative's electric power lines. CVEC is a member-owned electric distribution cooperative, serving more than 30,000 homes and businesses in the rural portions of 14 counties in Virginia.

3. Directory Assistance Services

Q. PLEASE DESCRIBE THE DIRECTORY ASSISTANCE SERVICES THAT VERIZON SEEKS DECLARED COMPETITIVE.

A. Verizon seeks to reclassify as competitive the retail directory assistance services ("DAS") Verizon provides to its local service customers. Verizon's DAS enable customers to obtain local telephone numbers and listings of residential and business customers of Verizon, independent companies and CLECs.[239] DAS are properly included in the product market that includes all of the other services (BLETS, OLETS and Bundles) that Verizon seeks declared competitive because - just like custom calling features - customers who purchase a basic access line also purchase the ability to obtain DAS from their local service provider. In fact, regulations in Virginia require all local exchange companies to provide DAS, as well as Operator Services, as adjuncts to the basic access lines.[240] Competition to provide local exchange service necessarily entails competition to provide related DAS. Accordingly, the evidence that I just presented of local exchange

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[238] *See* www.radford.va.us/project.html (accessed July 21, 2006).

[239] These services include: (1) local directory assistance or "411", which enables customers to obtain assistance in determining telephone numbers and listings of customers who are located in Verizon's service area; (2) Connect Request℠, which provides local directory assistance customers with the option of having the requested telephone number automatically dialed for them; and (3) List Service, which provides telephone numbers in written form.

[240] *See* 20 VAC 5-417-30-A4, A5.

competition for residential and small business customers, including competition from wireless carriers, VoIP providers and traditional wireline CLECs, also serves as evidence of competition for DAS.

Even if DAS were considered to be in a separate product market, however, there is ample evidence demonstrating that competitors face no substantial barriers to market entry and, in fact, are already present and reasonably meeting the needs of residential and business customers alike.

Q. WHAT MODES OF COMPETITION DOES VERIZON FACE FOR ITS DAS SERVICES?

A. In addition to wireline CLECs and VoIP providers who compete for customers' entire telephone business, Verizon faces DAS competition from wireless carriers, standalone telephonic providers, Internet-based services, and electronic media.

Q. HOW HAS THE COMPETITION FOR DAS AFFECTED VERIZON?

A. As a result of competition, Verizon has experienced substantial declines in its DA volumes. From 2002 through 2005, DA calling volumes have declined by about **[BEGIN CONFIDENTIAL]**

[END CONFIDENTIAL] percent. As Dr. Taylor concurs, the vast array of competitive alternatives available to customers of Verizon's retail DAS and the obvious impact these competitive alternatives have had on Verizon's retail DAS revenues and volumes, point clearly to the appropriateness of competitive reclassification for Verizon's DAS.

Q. HOW ARE WIRELESS CARRIERS MEETING CUSTOMERS' NEED FOR DAS?

A. Wireless carriers, such as Cingular, Sprint/Nextel, T-Mobile, Verizon Wireless, and the smaller wireless companies serving Virginia, all compete with Verizon's DAS. They each provide directory assistance services, most often with call connect services that directly connect the caller to the number sought from the directory assistance operator. Verizon wireline customers with a wireless phone, therefore, may choose to use their wireless phone for DAS, rather than their Verizon wireline service.

Q. DO STANDALONE TELEPHONIC DAS PROVIDERS COMPETE WITH VERIZON'S DAS?

A. Yes. A new breed of competitors has begun to provide free telephonic DAS. On October 10, 2005, Jingle Networks, Inc. launched Free Nationwide 411 Directory Assistance. This service allows residential and business customers to make free directory assistance calls from any wireline or wireless telephone by simply dialing 1-800-FREE411 (i.e., 1-800-373-3411). A PR Newswire News and Information Release, dated October 14, 2005, reported:

> Jingle Networks' 1-800-FREE411 service revolutionizes the 411 (directory assistance) marketplace by offering a FREE alternative to the high cost service provided by traditional carriers. In addition, FREE411.COM on the Internet provides consumers with an easy to use Web-based destination for telephone number lookups. National and local merchants subsidize this service with a 10-second audio advertisement about their services, which are played to consumers making a request for a business in their yellow pages category. Customers requesting residential listings do not hear any audio announcements or receive any marketing solicitations when placing directory requests. For more information visit http://www.free411.com.[241]

[241] *See* http://www.prnewswire.com.

411 METRO also provides ***free*** telephonic DAS services to business and residential customers throughout Virginia from any wireline or wireless telephone. The 411 METRO website advertises this no cost service as follows:

> Truth is, 411 should be free. So, we changed it. By simply including short, relevant ad messages from local businesses, we deliver the best possible directory service experience for you, the consumer, and the businesses you're calling. These businesses are more than willing to pay to advertise to local customers, allowing us to focus on delivering you with the highest quality 411 service in the industry. And it's free. Really.[242]

Q. DO ANY OF THESE FREE TELEPHONIC DAS PROVIDERS OFFER ADDITIONAL DA SERVICES?

A. Yes. 411 METRO provides ***free*** call completion to the requested telephone number as an option (in direct competition with Verizon's automatic call completion service).

Q. HOW DO INTERNET-BASED SERVICES COMPETE WITH VERIZON'S DAS?

A. Internet-based alternatives (accessed through wireline and wireless enabled personal computers, wireless handsets and personal data assistants) compete with Verizon's DAS in that business and residential customers obtain DA information from a host of World Wide Web sites that are accessed for free via Internet connection (e.g., telephone, cable, or satellite connection). These sites provide access to a multitude of free "on line" directory assistance database directories. Competitive pressure on Verizon's DAS from Internet-based DAS has increased as Internet usage and capabilities have increased. The already high and increasing penetration of Internet access is noteworthy because a

[242] *See* http://www.411metro.com.

recent study by the Pew Center for Internet and the Public Interest found that 54 percent of Internet users employed the Internet to search for telephone numbers or addresses.[243]

Q. CAN YOU IDENTIFY SOME OF THE FREE WEB SITES RESIDENTIAL AND BUSINESS CUSTOMERS CAN ACCESS, AND EXPLAIN WHAT DIRECTORY ASSISTANCE SERVICES ARE AVAILABLE FROM THESE SITES?

A. Yes. Residential and business customers throughout Virginia can obtain white and yellow page listings and other enhanced directory assistance services from web sites such as Switchboard.com, Reach411.com, Four11.com, InfoSpace.com, Whitepages.com, WhoWhere.com, 411Locate.com, 411metro.com, and free411.com – just to name a few. Further, web search engines such as AltaVista, Ask, GoTo, Excite, FindWhat, Google, MetaCrawler, and Yahoo all have web links to free directory assistance listings and services web sites.

Q. DO INTERNET-BASED DAS PROVIDE GREATER SEARCHING FLEXIBILITY AND INFORMATION CONTENT THAN TELEPHONIC DAS?

A. Yes. Internet DAS are in many ways superior to the DAS offered by Verizon. In addition to providing directory listings, Internet-based DAS provide web-site and e-mail addresses, cell phone numbers, driving directions, and links to web sites related to the requested business or residence listing. Moreover, Internet-based DAS provide category searches that allow users to identify numerous businesses or professional service providers by product or service type and by distance from the user's location. This type of searching flexibility is especially important

[243] Pew Internet & American Life Project, "*Usage Over Time*" spreadsheet, latest survey entry on May-June, 2005, found at http://www.pewinternet.org/trends.asp (accessed March 27, 2006).

because at least one study found that about 85 percent of DA calls are made to obtain business telephone numbers.[244]

Q. IS THERE SIGNIFICANT DEMAND FOR INTERNET-BASED DAS?

A. Yes. A report issued by Frost and Sullivan discusses how the Internet DA market has experienced enormous growth and predicts that the number of Internet - Online DA web site visits will increase from 660 million per year in 1999 to exceed 5 billion visits per year in 2006, a compounded annual growth rate of 34.2 percent over the forecast period.[245]

Placement of Internet-based DAS on many major web portals demonstrates the significant demand for these directories. For instance, on Yahoo!, the "People Search" directory option occupies a prominent position on the screen, as do the "Yellow Pages" option on AOL's portal and the "White Pages" and "Yellow Pages" links on MSN's home page. This indicates that the directory is a popular option for users; otherwise Yahoo! and AOL would not allocate precious portal space to it. It also means that users can get to the telephone directory with very little trouble or inconvenience. These observations – combined with data showing that 54 percent of Internet users search for telephone numbers and addresses online – support the common sense notion that there is significant demand for Internet directories.

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[244] The Pelorus Group, "*Enhanced Directory Assistance: Strategies For The New Directory Assistance Landscape,*" at 8 (September 2001).

[245] "*Invasion of Internet Directory Assistance Creates New Challenges for Telephone Directory Services Providers,*" Frost and Sullivan, 2000, Figure 2, at p.7.